femme') fastened either by a rubber bandage, or by a sheet of gutta-percha tied to the girdle and thigh-straps he succeeded partially. Another plan, however, proved more feasible. A small rubber bag is inflated, at first only to the size of a pigeon's egg. This is placed against the upper part of the bladder, after elevating the pelvis. The string and the mouth end lie upwards, and thus the urethral openings are left free. A circular plate of gutta-percha—its rounded edges extending a finger's breadth beyond the vesical border—holds this in place. The rubber girdle serves for holding this in place, except at its lower part where a second, triangular piece of gutta-percha is fastened above to the girt and below to the thigh straps. When the child lies in the split block the bladder has less tendency to prolapse and the plate can be retained by a rubber bandage. After the pubic bones begin to approach, the lower part of the bladder settles back and the ureter mouths are more protected.

For suture of the symphysis any approximation of the pubic bones less than contact is unavailing. When the latter can be achieved and the soft parts have lost some of their abnormal width, all is ready for suture, and this may include the bladder.

Some experiments as to the elasticity of the pelvis showed that in two cases cleft symphysis in the new-born, gaps of $1^{1}/_{2}$ and 2 cm. could be quite overcome by lateral pressure; in the cadaver of a $2^{1}/_{2}$-year-old girl, after exsection of the pubic arch, a compression of $1^{1}/_{2}$ cm. was possible; in the cadaver of a 9-year old boy 1 cm. was possible; whilst in the cadaver of a young man but little compression was possible without infraction. Hence he concludes that puberty is the age-limit for achieving much by the method of slow compression.—*Arch. f. kl. Chir.*, 1886, bd. 34, hft. iii.

VIII. On Rupture of the Bladder Produced by Filling.

By Dr. E. ULLMANN (Vienna). In the ANNALS OF SURGERY for January, 1887, some cases and experiments by Von Dittel, bearing on this question, were quoted. Besides 7 variously reported cases Ullman gives 2 new ones. These occurred from injecting the bladder in litholapaxy. By suprapubic openings and drainage both patients (a man and a woman) recovered. From experiments on the cadaver he has tried to determine various factors relating to this question. He finds that:

1. Even a small quantity of fluid may cause the bladder to rupture (in 2 cases, 360 and 540 cc., respectively). In each of these cases the bladder contained pus, and its muscular layer showed granular or fatty degeneration.

2. Some bladders tolerate an enormous distention before rupture, in one case 2070 cc. and in one of Dittel's 5,000.

3. There is no rule as to intraperitoneal (on posterior wall) or extraperitoneal (through anterior wall) rupture. Where there was much fluid, *e. g.*, 500 cc., in the rectal balloon, the rupture was usually posterior and intraperitoneal; where little fluid, it did not appear to have any influence.

4. The tear usually is linear corresponding to the sagittal axis, less often oblique, rarely transverse and then extraperitoneal. He has only once seen a simple perforation (like a hole).

5. The mucosa seems to part first, then the muscular layer and finally the peritoneum.

6. Multiple ruptures are at least rare (2 cases). For these he is unable to state any rules.

7. Whether the abdomen is open or closed makes no difference—except in ballooning the rectum when with open abdomen only extraperitoneal rupture occurs.

8. Diverticula favor the early occurrence of rupture.

9. The peritoneum tears farthest, and outer layers farther than inner, thus forming a funnel tapering towards the bladder. Falck has shown that the vital differs from the post-mortem bladder capacity. Finally, he offers the latest statistics of vesical rupture in general. Of the 9 cases from operative filling, the particulars are unknown in 1. Only a catheter was introduced in 1 (fatal), and 1 was intraperitoneal (fatal). Of the remaining 6 operatively treated cases 4 recovered. The general lists collected by Bartels and by Rivington (1882) he completes to date. These represent 94 extraperitoneal with 20 cures, and 143 intraperitoneal with 2 cures. In agreement with Güterbock

he advises: In extraperitoneal rupture proceed to suprapubic incision. Bladder-suture may be practiced, or omitted as it does not offer full security. Sufficient drainage is essential. In intra-peritoneal rupture do laparotomy immediately, and sew up the bladder. Drainage of the abdomen is strictly necessary.—*Wien. Med. Woch.*, 1887, Nos. 23, 24, and 25.

WM. BROWNING (Brooklyn).

IX. Laparotomy for Intraperitoneal Rupture of the Bladder. By EDWARD L. KEYES M.D. (New York) and JOSEPH M. FOX, M.D. (Philadelphia). A man, æt. 22, suffering from this lesion was operated upon by Dr. Keyes twenty-two and a half hours after the accident, but *death* supervened eighteen hours afterward. Dr. Fox's case occurred in a man, æt. 45, the operation being delayed nearly twenty hours, and *death* occurring thirty-nine hours later from urinary intoxication and peritonitis, caused by the length of time the peritoneum was exposed to the urine between the injury and the operation.—*N. Y. Med. Rec.*, Dec. 24, 1887, and *Med. News*, Dec. 10, 1887.

JAMES E. PILCHER (U.S.Army).

ULCERS, ABSCESSES, TUMORS.

I. Rectal Fistula in Czerny's Clinic. By CARL C. F. GREFFRATH (Heidelberg). This is a statistical compilation of sixty-one cases of rectal fistulæ operated upon in the clinic of Czerny, of Heidelberg. Fistula in ano was observed most frequently between the ages of 20 and 40 years (57% +); this corresponds to other authors. The youngest patient was aged 6 months, the oldest 70 years of age. It was found to be infrequent below the age of ten years. It has so happened that of the 61 cases only one occurred in a woman. (Bryant in 236 cases had 74 occurring in women). As to the situation of the fistulæ author gives the following figures:

65.5% Fistula recti incompleta externa
4.8% " " " interna
29.5% " " completa.

The incomplete external fistulæ were situated on the left side be-